



State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
CN 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

May 2, 1997

Michael P. Fleischner
Blasland, Bouck & Lee, Inc.
8 South River Road
Cranbury, NJ 08512-9502

Re: Cytotec Industries, Inc. - Carteret (Project # 44055)

Dear Mr. Fleischner:

Thank you for your data request regarding rare species information for the above referenced project site in Carteret Borough, Middlesex County.

The Natural Heritage Data Base does not have any records for rare plants, animals, or natural communities on the site. Attached is a list of rare species and natural communities which have been documented from Middlesex County. If suitable habitat is present at the project site, these species have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish, Game and Wildlife, Endangered and Nongame Species Program.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Elena A. Williams
Senior Planner

cc: Lawrence Niles
Thomas Hampton
NHP File No. 97-4007452

EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

FEDERAL STATUS CODES

The following U.S. Fish and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188; Vol. 61, No. 40; F.R. 50 CFR Part 17). Federal Status codes reported for species follow the most recent listing.

LE	Taxa formally listed as endangered.
LT	Taxa formally listed as threatened.
PE	Taxa already proposed to be formally listed as endangered.
PT	Taxa already proposed to be formally listed as threatened.
C	Taxa for which the Service currently has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
S/A	Similarity of appearance species.

STATE STATUS CODES

Two animal lists provide state status codes after the Endangered and Nongame Species Conservation Act of 1973 (NSSA 23:2A-13 et. seq.): the list of endangered species (N.J.A.C. 7:25-4.13) and the list defining status of indigenous, nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.17(a)). The status of animal species is determined by the Nongame and Endangered Species Program (ENSP). The state status codes and definitions provided reflect the most recent lists that were revised in the New Jersey Register, Monday, June 3, 1991.

D	Declining species-a species which has exhibited a continued decline in population numbers over the years.
E	Endangered species-an endangered species is one whose prospects for survival within the state are in immediate danger due to one or many factors - a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.
EX	Extirpated species-a species that formerly occurred in New Jersey, but is not now known to exist within the state.
I	Introduced species-a species not native to New Jersey that could not have established itself here without the assistance of man.
INC	Increasing species-a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long term period.
T	Threatened species-a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.
P	Peripheral species-a species whose occurrence in New Jersey is at the extreme edge of its present natural range.
S	Stable species-a species whose population is not undergoing any long-term increase/decrease within its natural cycle.
U	Undetermined species-a species about which there is not enough information available to determine the status.

Status for animals separated by a slash(/) indicate a dual status. First status refers to the state breeding population, and the second status refers to the migratory or winter population.

Plant taxa listed as endangered are from New Jersey's official Endangered Plant Species List N.J.S.A. 131B-15.151 et seq.

E Native New Jersey plant species whose survival in the State or nation is in jeopardy.

REGIONAL STATUS CODES FOR PLANTS

LP Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pineland species is included in the New Jersey Pinelands Comprehensive Management Plan.

EXPLANATION OF GLOBAL AND STATE ELEMENT RANKS

The Nature Conservancy has developed a ranking system for use in identifying elements (rare species and natural communities) of natural diversity most endangered with extinction. Each element is ranked according to its global, national, and state (or subnational in other countries) rarity. These ranks are used to prioritize conservation work so that the most endangered elements receive attention first. Definitions for element ranks are after The Nature Conservancy (1982: Chapter 4, 4.1-1 through 4.4.1.3-3).

GLOBAL ELEMENT RANKS

- G1** Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- G2** Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
- G3** Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; with the number of occurrences in the range of 21 to 100.
- G4** Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.
- G5** Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.
- GH** Of historical occurrence throughout its range i.e., formerly part of the established biota, with the expectation that it may be rediscovered.
- GU** Possibly in peril range-wide but status uncertain; more information needed.
- GX** Believed to be extinct throughout range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.
- G?** Species has not yet been ranked.

STATE ELEMENT RANKS

- S1** Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the

state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

- S2** Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.
- S3** Rare in state with 21 to 100 occurrences (plant species in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.
- S4** Apparently secure in state, with many occurrences.
- S5** Demonstrably secure in state and essentially ineradicable under present conditions.
- SA** Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include european strays or western birds on the East Coast and visa-versa.
- SE** Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).
- SH** Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.
- SN** Regularly occurring, usually migratory and typically nonbreeding species for which no significant or effective habitat conservation measures can be taken in the state; this category includes migratory birds, bats, sea turtles, and cetaceans which do not breed in the state but pass through twice a year or may remain in the winter (or, in a few cases, the summer); included also are certain lepidoptera which regularly migrate to a state where they reproduce, but then completely die out every year with no return migration. Species in this category are so widely and unreliably distributed during migration or in winter that no small set of sites could be set aside with the hope of significantly furthering their conservation. Other nonbreeding, high globally-ranked species (such as the bald eagle, whooping crane or some seal species) which regularly spend some portion of the year at definite localities (and therefore have a valid conservation need in the state) are not ranked SN but rather S1, S2, etc.
- SR** Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.
- SRF** Elements erroneously reported from New Jersey, but this error persists in the literature.
- SU** Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.
- SX** Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.

- SXC** Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.
- T** Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently than the full species. For example *Stachys palustris* var. *homotricha* is ranked "G5T? SH" meaning the full species is globally secure but the global rarity of the var. *homotricha* has not been determined; in New Jersey the variety is ranked historic.
- Q** Elements containing a "Q" in the global portion of its rank indicates that the taxon is of questionable, or uncertain taxonomical standing, e.g., some authors regard it as a full species, while others treat it at the subspecific level.
- .1** Elements documented from a single location.

Note: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1G2, S1S3).

IDENTIFICATION CODES

These codes refer to whether the identification of the species or community has been checked by a reliable individual and is indicative of significant habitat.

- Y** Identification has been verified and is indicative of significant habitat.
- BLANK** Identification has not been verified but there is no reason to believe it is not indicative of significant habitat.
- ?** Either it has not been determined if the record is indicative of significant habitat or the identification of the species or community may be confusing or disputed.

Department of Environmental Protection
Division of Parks and Forestry
Office of Natural Lands Management
CN 404 Trenton New Jersey 08625-0404
(609) 984-1339 FAX (609) 984-1427

Invoice

BILL TO:

Blasland, Bouck & Lee, Inc.
8 South River Road
Cranbury, NJ 08512-9502

DATE

INVOICE #

5/2/97

1393

DESCRIPTION

AMOUNT

Charge for Natural Heritage Database search for rare species
and natural communities locational information.

20.00

Please make check payable to *Office of Natural Lands
Management*. To insure credit to your account, send
your check, with a copy of this invoice to:

Office Of Natural Lands Management
CN 404
Trenton, New Jersey 08625-0404

Michael P. Fleischner
Cytec Industries, Inc. - Carteret (Project # 44055)

TOTAL

\$20.00

NATURAL LANDS MANAGEMENT

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Land Use Regulation Program, CN 401, Trenton, NJ 08625-0401.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

3
11 MAR 1997

MIDDLESEX COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
LATHYRUS OCHROLEUCUS	PALE VETCHLING PEAVINE		E		G4G5	SH
LIATRIS SCARIOSA VAR	NORTHERN BLAZING STAR		E		G5?T3Q	SH
NOVAE-ANGLIAE						
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2
LYSIMACHIA HYBRIDA	LANCE-LEAVED LOOSESTRIPE				G5	S3
MELANTHIUM VIRGINICUM	VIRGINIA BUNCHFLOWER		E		G5	S1
MICRANTHEMUM MICRANTHEMOIDES	NUTTALL'S MUDWORT		E		GH	SH
MIMULUS ALATUS	WINGED MONKEY FLOWER				G5	S3
MYRIOPHYLLUM TENELLUM	SLENDER WATER-MILFOIL		E		G5	S1
MYRIOPHYLLUM VERTICILLATUM	WHORLED WATER-MILFOIL		E		G5	SH
PHORADENDRON SEROTINUM	MISTLETOE			LP	G5	S2
PLANTAGO MARITIMA	SEA-SIDE PLANTAIN				G5	S2
PLATANThERA FLAVA VAR FLAVA	SOUTHERN REIN ORCHID		E		G4T4?Q	S1
PLATANThERA PERAMOENA	PURPLE FRINGELESS ORCHID		E		G5	S1
POLYGALA POLYGAMA	RACEMED MILKWORT				G5	S2
POLYGONUM GLAUCUM	SEA-BEACH KNOTWEED		E		G3	S1
POTAMOGETON VASEYI	VASEY'S PONDWEED				G4	SH.1
PYCNANTHEMUM TORREI	TORREY'S MOUNTAIN MINT		E		G2	S1
RANUNCULUS PUSILLUS	LOW SPEARWORT				G5	S2
RHODODENDRON CANADENSE	RHODORA		E		G5	S1
SAGITTARIA AUSTRALIS	SOUTHERN ARROW HEAD		E		G5	S1
SAGITTARIA SPATHULATA	TIDAL ARROWHEAD				G4	S3
SCIRPUS MARITIMUS	SALT MARSH BULRUSH		E		G5	SH
SCUTELLARIA LEONARDII	SMALL SKULLCAP		E		G4T4	S1
SOLIDAGO ELLIOTTII	ELLIOTT'S GOLDENROD				G5	S3
SOLIDAGO RIGIDA	STIFF GOLDENROD		E		G5	S1
STACHYS HYSSOPIFOLIA	HYSSOP HEDGE-NETTLE				G5	S2
TRIGLOCHIN MARITIMUM	SEA-SIDE ARROW-GRASS		E		G5	S1
UTRICULARIA GIBBA	HUMPED BLADDERWORT			LP	G5	S3
UTRICULARIA PURPUREA	PURPLE BLADDERWORT			LP	G5	S3

11 MAR 1997

MIDDLESEX COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
VERBENA SIMPLEX	NARROW-LEAVED VERVAIN		E		G5	S1
VICIA AMERICANA	AMERICAN PURPLE VETCH				G5	S2
VIOLA BRITTONIANA	COAST VIOLET				G4G5	S3
ZIGADENUS LEIMANTHOIDES	OCEANORUS		E		G4Q	S1

87 Records Processed

11 MAR 1997

MIDDLESEX COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
*** Vertebrates						
AMMODRAMUS HENSLOWII	HENSLOW'S SPARROW		E		G3G4	S1
AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/T		G4	S2
ASIO OTUS	LONG-EARED OWL		T/T		G5	S3
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1
CIRCUS CYANEUS	NORTHERN HARRIER		E/U		G5	S2
CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
CLEMMYS MUHLENBERGII	BOG TURTLE	PT	E		G3	S2
DOLICHONYX ORYZIVORUS	BOBOLINK		T/T		G5	S2
FALCO PEREGRINUS	PEREGRINE FALCON	E(S/A)	E		G4	S1
HYLA ANDERSONII	PINE BARRENS TREEFROG		E		G4	S3
LANIUS LUDOVICIANUS MIGRANS	MIGRANT LOGGERHEAD SHRIKE		E		G4G5T3	S1
NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON		T/T		G5	S2
PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2
PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1
*** Invertebrates						
AESHNA CLEPSYDRA	MOTTLED DARNER				G4	S?
ALASMIDONTA UNDULATA	TRIANGLE FLOATER				G4	S3
ANAX LONGIPES	COMET DARNER				G5	S2?
BOLORIA SELENE MYRINA	A SILVER-BORDERED FRITILLARY				G5T5	S2
CELITHEMIS MARTHA	MARTHA'S PENNANT				G4	S3S4
ENALLAGMA BASIDENS	DOUBLE-STRIPED BLUET				G5	S2?
ENALLAGMA PICTUM	SCARLET BLUET				G4	S3?
ERYNNIS PERSIUS PERSIUS	A PERSIUS DUSKY WING				G4T2T3	SH
INCISALIA IRUS	FROSTED ELFIN				G4Q	S2S3
LASMIGONA SUBVIRIDIS	GREEN FLOATER				G3	SH
LESTES EURINUS	AMBER-WINGED SPREADWING				G4	S1?
METARRANTHIS PILOSARIA	COASTAL SWAMP METARRANTHIS				G3G4	S3S4
PAPAIPEMA NECOPINA	SUNFLOWER BORER MOTH				G4?	SH

11 MAR 1997

MIDDLESEX COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
PONTIA PROTODICE	CHECKERED WHITE				G4	S1
SPEYERIA IDALIA	REGAL FRITILLARY				G3	SX
SYMPETRUM AMBIGUUM	BLUE-FACED MEADOWFLY				G5	S1?
*** Vascular plants						
AGALINIS AURICULATA	EARED FALSE FOXGLOVE				G3	SX
AGASTACHE NEPETOIDES	YELLOW GIANT HYSSOP				G5	S2
ARTEMISIA CAMPESTRIS SSP CAUDATA	WILD WORMWOOD				G5T4	S2
ASCLEPIAS RUBRA	RED MILKWEED			LP	G4G5	S2
ASCLEPIAS VERTICILLATA	WHORLED MILKWEED				G5	S2
ASTER RADULA	LOW ROUGH ASTER		E		G5	S1
BIDENS BIDENTOIDES	BUR-MARIGOLD		E		G3	S2
BIDENS EATONII	EATON'S BEGGARS-TICK		E		G2G3	S1.1
CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS			LP	G4	S4
CAREX BARRATTII	BARRATT'S SEDGE			LP	G4	S4
CAREX LOUISIANICA	LOUISIANA SEDGE		E		G5	S1.1
CAREX POLYMORPHA	VARIABLE SEDGE		E		G2G3	S1
CAREX ROSTRATA	BEAKED SEDGE				G5	S2
CAREX WILLDENOWII	WILLDENOW'S SEDGE				G5	S2
CRATAEGUS CALPODENDRON	PEAR HAWTHORN		E		G5	S1
CYPERUS LANCASTRIENSIS	LANCASTER FLATSEDEGE				G5	S2
DRABA REPTANS	CAROLINA WHITLOW-GRASS		E		G5	SH
ELATINE AMERICANA	AMERICAN WATERWORT				G4	S2
EUPATORIUM ALTISSIMUM	TALL THOROUGHWORT				G5	S2
GENTIANA SAPONARIA	SOAPWORT GENTIAN				G5	S3
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G3	S3
HOTTONIA INFLATA	FEATHERFOIL		E		G4	S1
HYDROCOTYLE RANUNCULOIDES	FLOATING PENNYWORT		E		G5	S1
ISOETES RIPARIA	RIVER-BANK QUILLWORT				G4	S3

11 MAR 1997

UNION COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
*** Vertebrates						
CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
CLEMMYS MUHLENBERGII	BOG TURTLE	PT	E		G3	S2
EURYCEA LONGICAUDA LONGICAUDA	LONGTAIL SALAMANDER		T		G5T5	S2
PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2
STERNA ANTILLARUM	LEAST TERN		E		G4	S2
STRIX VARIA	BARRED OWL		T/T		G5	S3
*** Ecosystems						
TRAPROCK GLADE/ROCK OUTCROP COMMUNITY	TRAPROCK GLADE/ROCK OUTCROP COMMUNITY				G2	S1?
*** Invertebrates						
ALASMIDONTA UNDULATA	TRIANGLE FLOATER				G4	S3
PAPAPEMA AERATA					GH	SH
POLITES MYSTIC	LONG DASH				G5	S3?
PONTIA PROTODICE	CHECKERED WHITE				G4	S1
*** Other types						
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY				GU	S3
*** Vascular plants						
CAREX BEBBII	BEBB'S SEDGE				G5	S2
CAREX POLYMORPHA	VARIABLE SEDGE		E		G2G3	S1
CYNOGLOSSUM VIRGINIANUM VAR VIRGINIANUM	WILD COMFREY				G5T5	S2
LEMNA VALDIVIANA	PALE DUCKWEED		E		G5	S1
LIATRIS SCARIOSEA VAR	NORTHERN BLAZING STAR		E		G5?T3Q	SH
NOVAE-ANGLIAE						
MONARDA CLINOPODIA	BASIL BEE-BALM		E		G5	SH

1 MAR 1997

UNION COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
MUHLENBERGIA CAPILLARIS	LONG-AWNED SMOKE GRASS		E		G5	S1
PHLOX PILOSA	DOWNY PHLOX		E		G5	SH
RANUNCULUS PUSILLUS	LOW SPEARWORT				G5	S2
VIOLA CANADENSIS	CANADA VIOLET		E		G5	S1

2 Records Processed